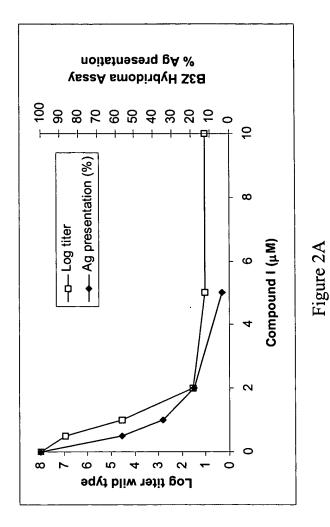


Figure 1



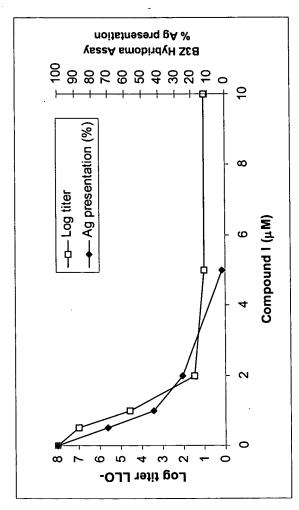


Figure 2F

App No.: Not Yet Assigned Docket No.: 282172002800 Inventor: Thomas W. DUBENSKY, Jr. et al. Title: MODIFIED FREE-LIVING MICROBES, VACCINE COMPOSITIONS AND METHODS OF USE THEREOF

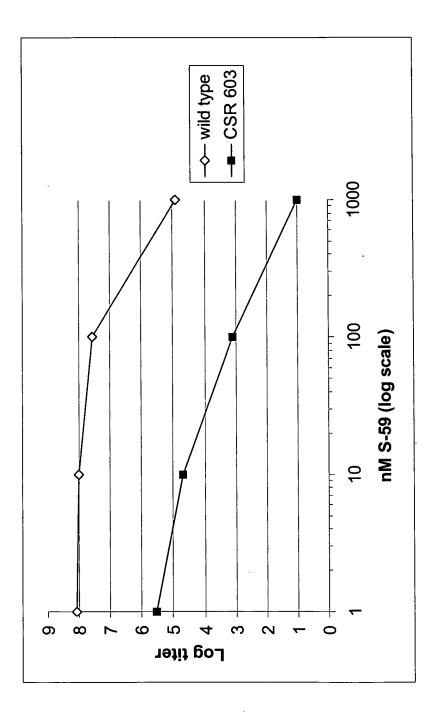
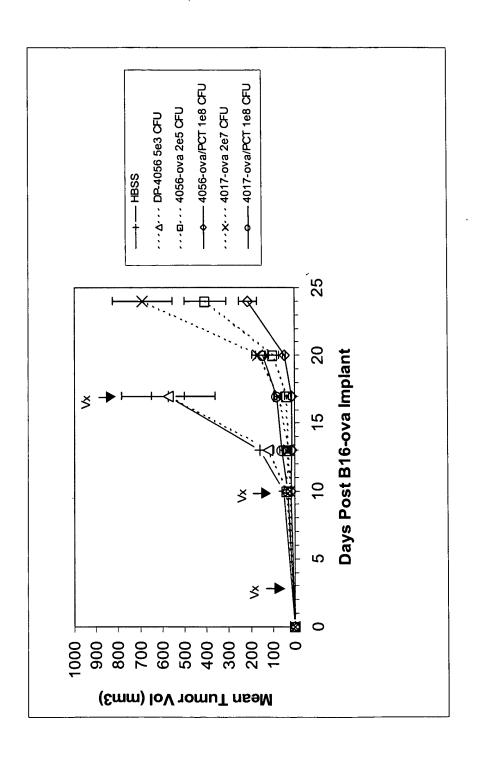
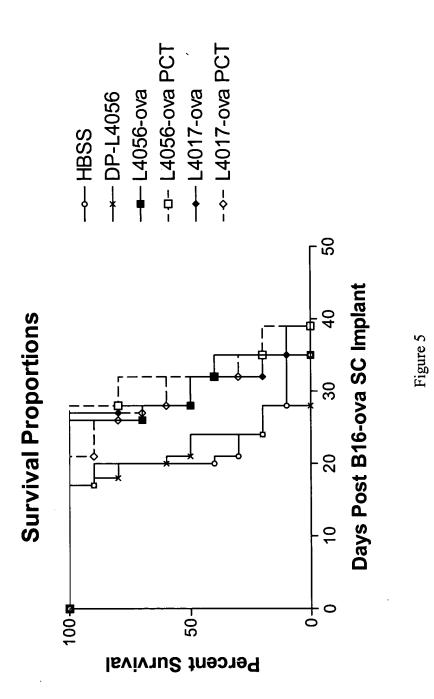


Figure 3



App No.: Not Yet Assigned Docket No.: 282172002800 Inventor: Thomas W. DUBENSKY, Jr. et al.
Title: MODIFIED FREE-LIVING MICROBES, VACCINE COMPOSITIONS AND METHODS OF USE THEREOF



L4056-OVA PCT L4056-0VA (1e5)(1e8)LLO<sub>190-201</sub>-specific CD4<sup>+</sup> T cell response ε<sup>01</sup> 39<u>-</u>83MT 101 101 POI S<sub>01</sub> 1<sub>01</sub> 0.63 L4056-OVA PCT **DP-L4056 PCT** (1e5)(1e7)301 tot 501 tot 103 90.0 L4056-OVA PCT **DP-L4056** (1e5)(1e6)0.37 S<sub>01</sub> 1<sub>0</sub>1 0.02 0.00 L4056-OVA PCT **HBSS** (1e5)€<sub>01</sub> 39\_83MT 501 °01 PS01 101 101 102

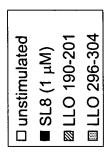
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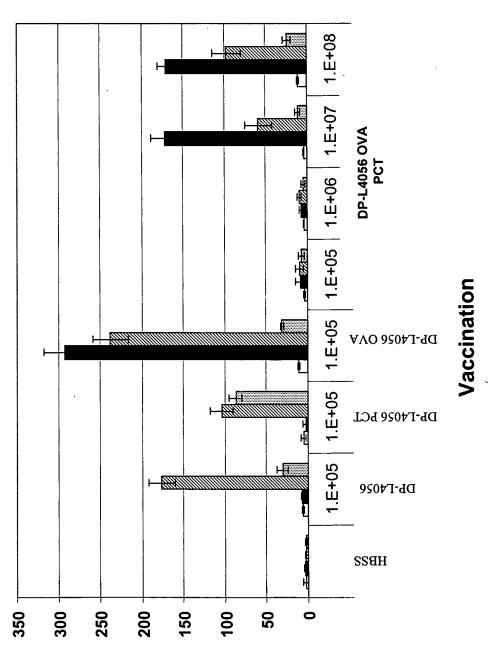
Figure 6A

## L4056-OVA PCT 0.50L4056-OVA (1e8)(1e5)€ 10.24 39-89MT Sor for S<sub>01</sub> 1<sub>01</sub> ε<sub>01</sub> OVA-specific CD8<sup>+</sup> T cell response 0.02 L4056-OVA PCT 0.83 **DP-L4056 PCT** (1e5)(1e7)۰ 01 ه S<sub>01</sub> t<sub>01</sub> Por 103 10 102 10 102 0.08 L4056-OVA PCT 0.01 **DP-L4056** (1e5)(1e6)0.27 103 Jun 01 سم P<sub>01</sub> Sor for oor 39-8-1NT 501 101 103 OOL 0.02 L4056-OVA PCT 0.02 **HBSS** (1e5)301 101 S<sub>01</sub> 1<sub>01</sub>

IFN-7

Figure 6B





IFN-Y SFC per 2 5 cells

Figure 7

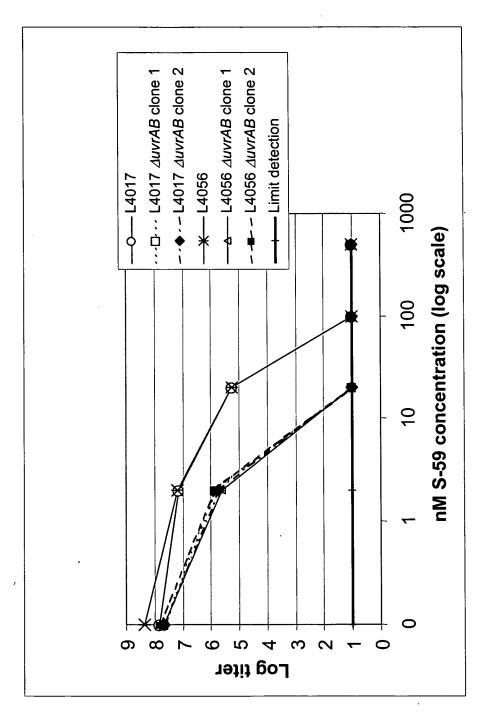
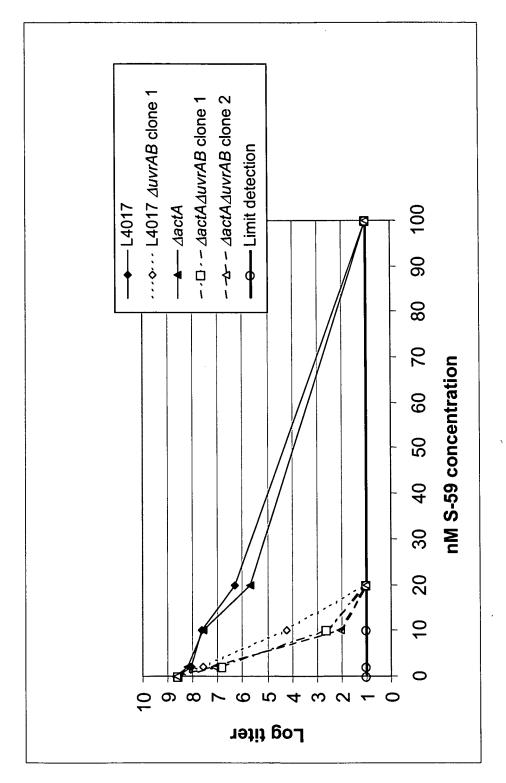
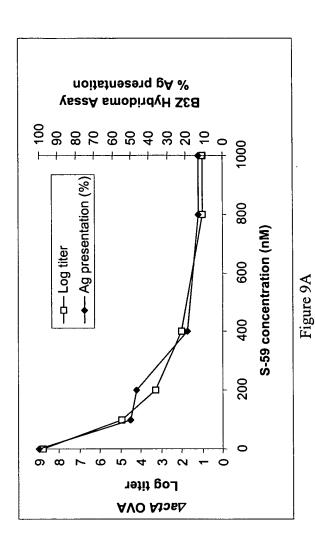


Figure 8A





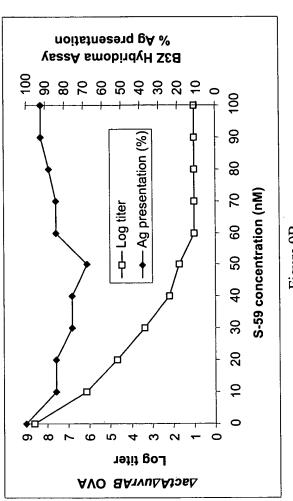
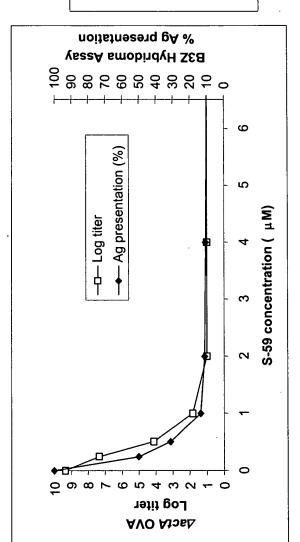
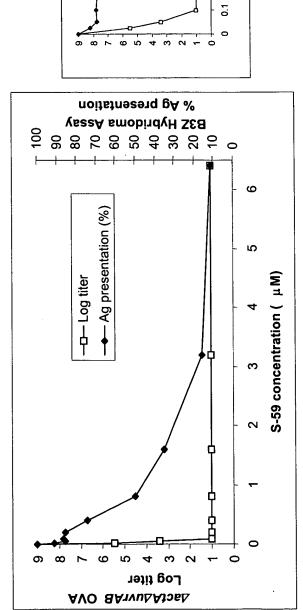
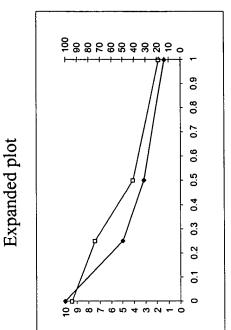
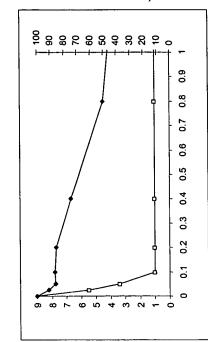


Figure 9B





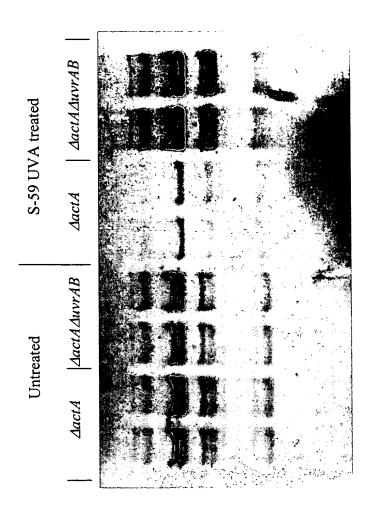




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Expanded plot

Figure 9C



S-59 UVA treated

Misal

 $\Delta act A \Delta uvrAB$ 



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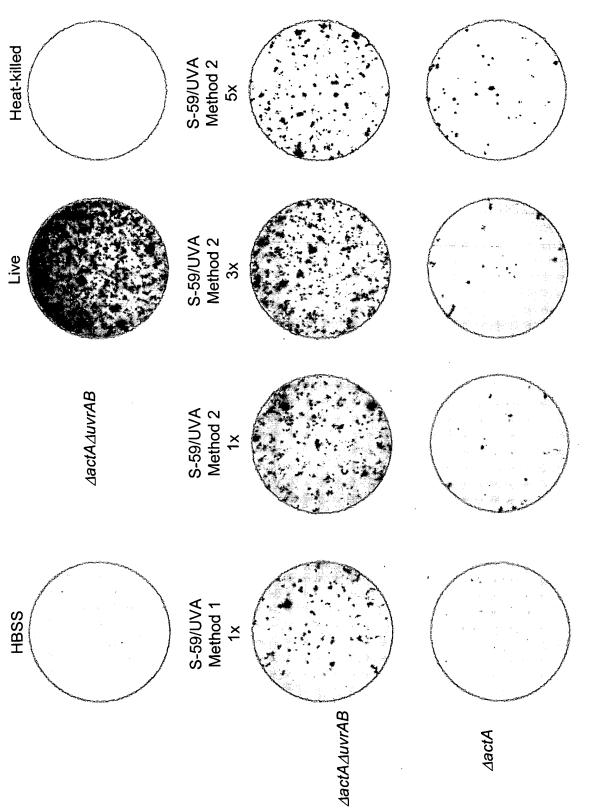


Figure 11A

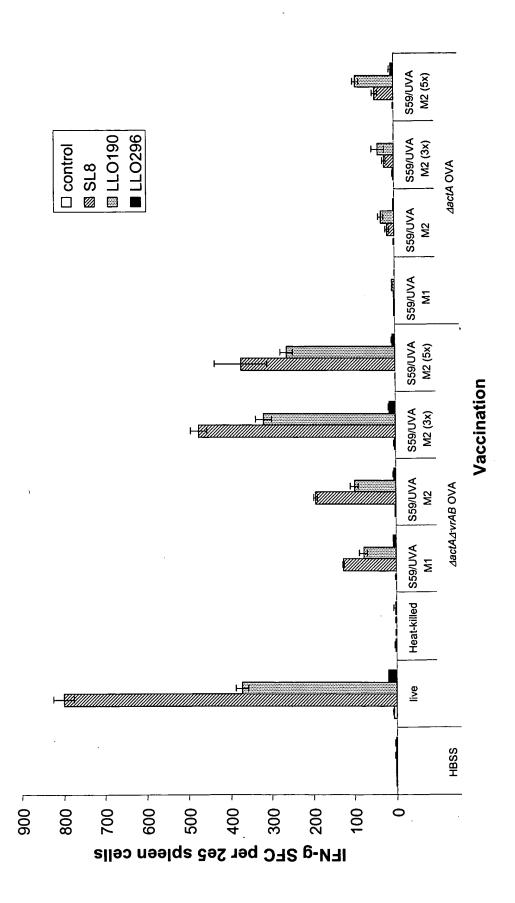
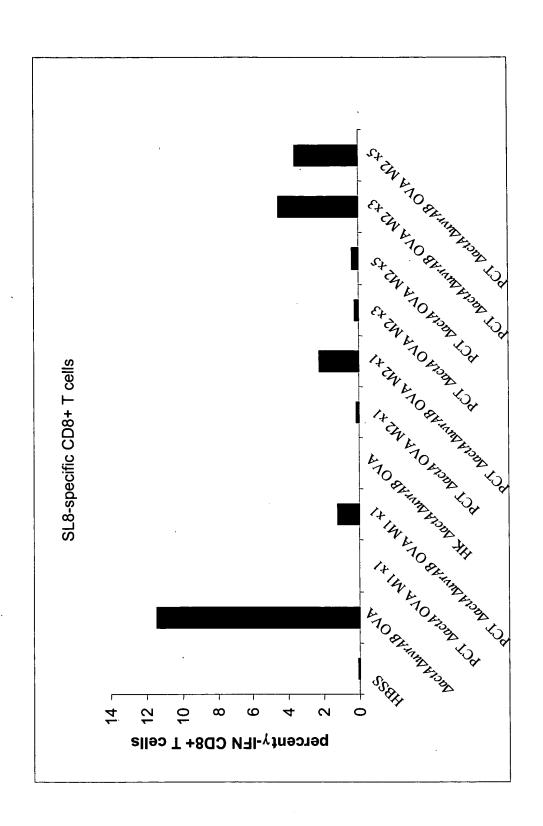


Figure 11B



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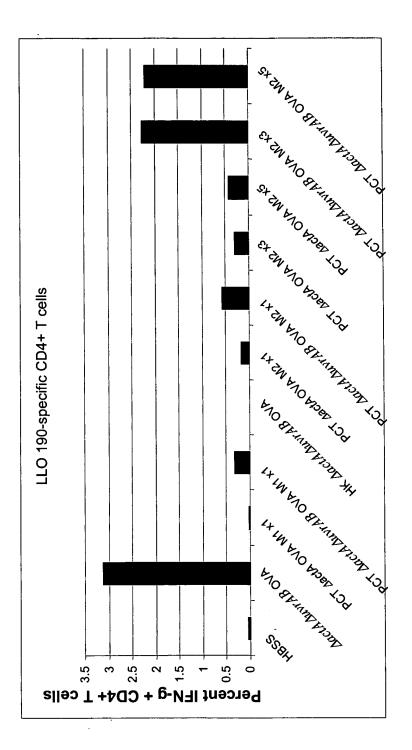
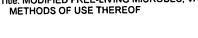
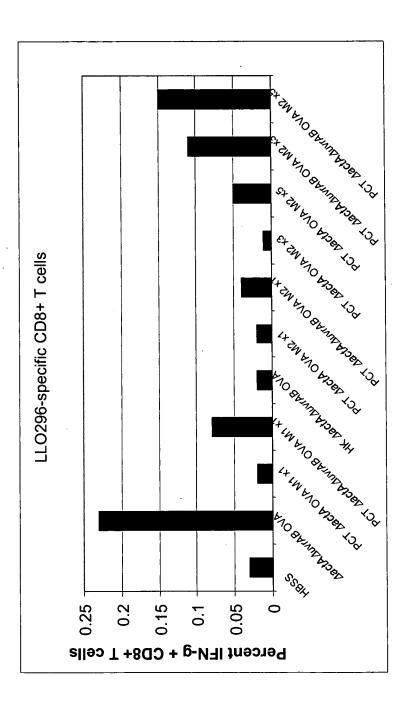


Figure 12B





`,

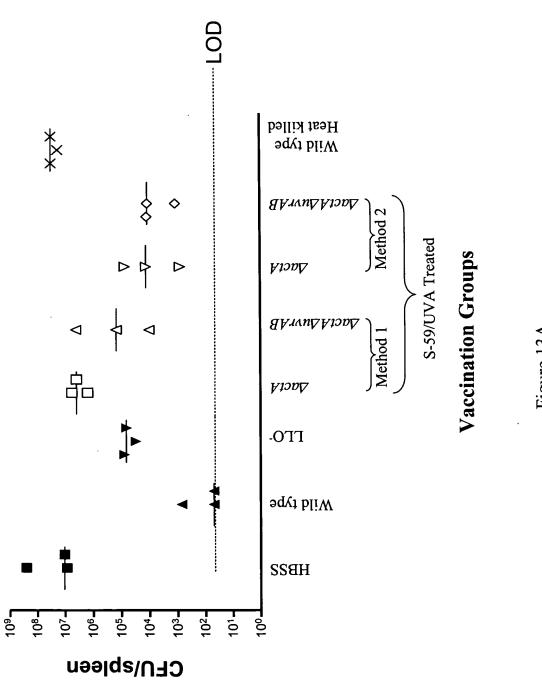
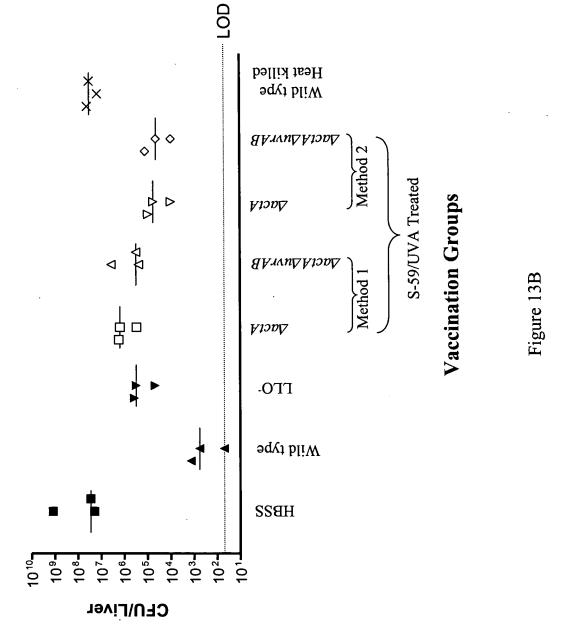
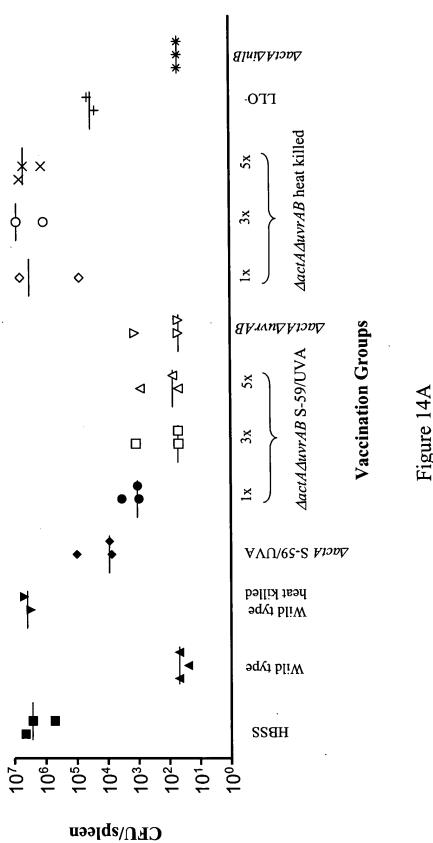


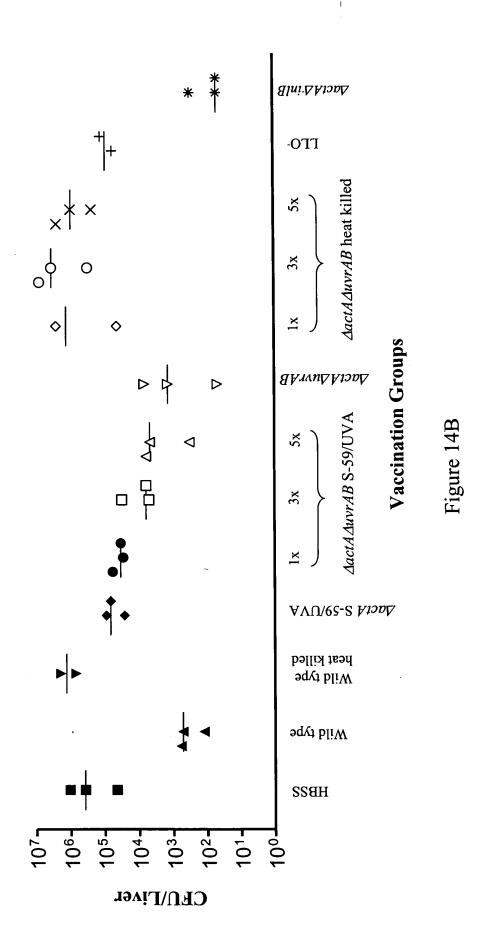
Figure 13,

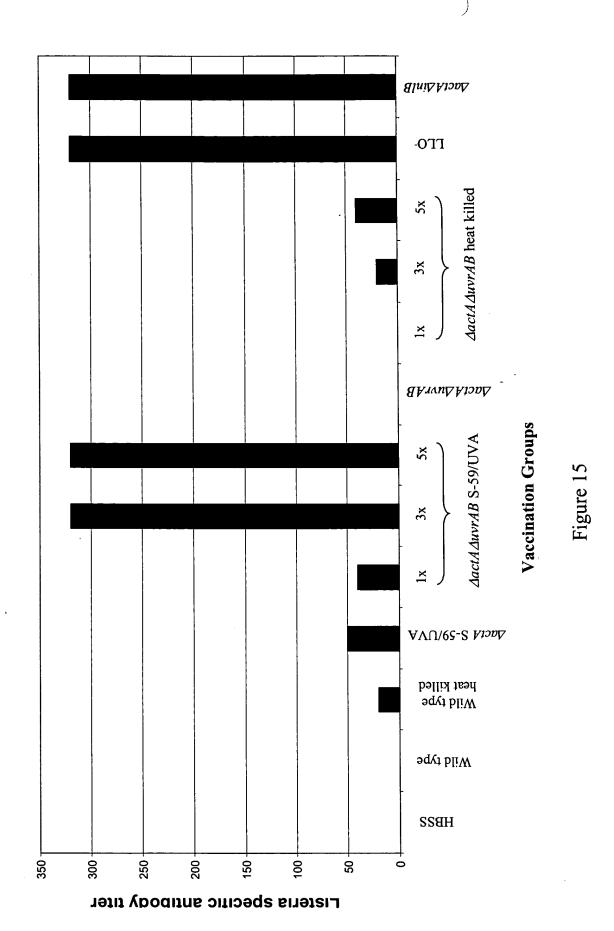


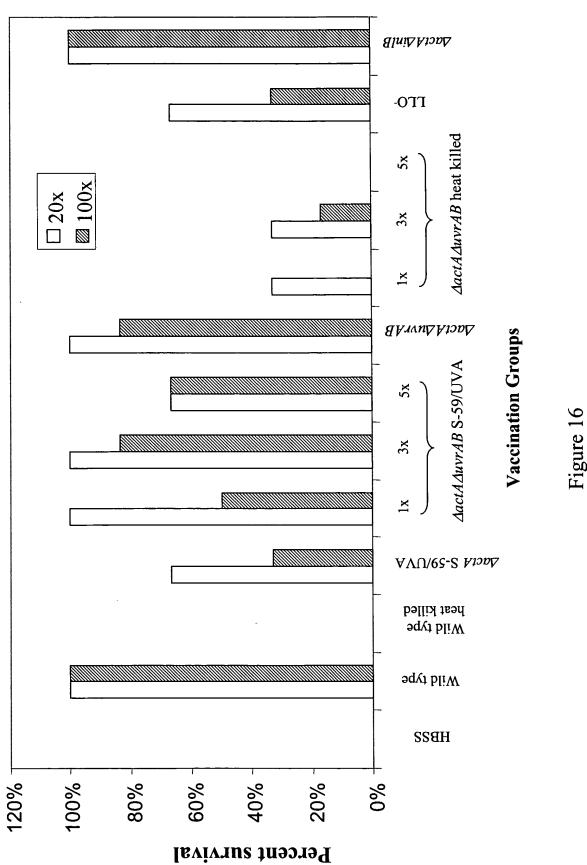


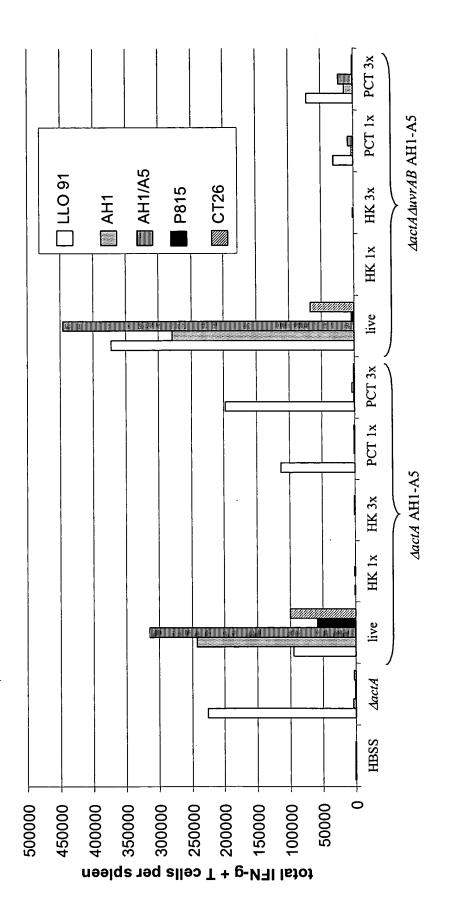
App No.: Not Yet Assigned Docket No.: 282172002800 Inventor: Thomas W. DUBENSKY, Jr. et al.

Title: MODIFIED FREE-LIVING MICROBES, VACCINE COMPOSITIONS AND METHODS OF USE THEREOF





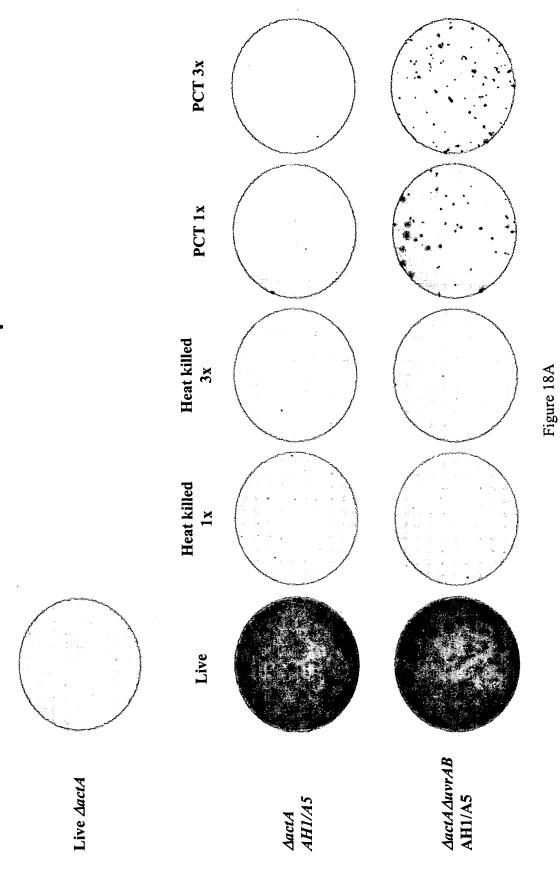




Vaccination Groups

Figure 17

## **ELISPOT for AH1/A5-specific T cells**



## **ELISPOT for AH1-specific T cells**

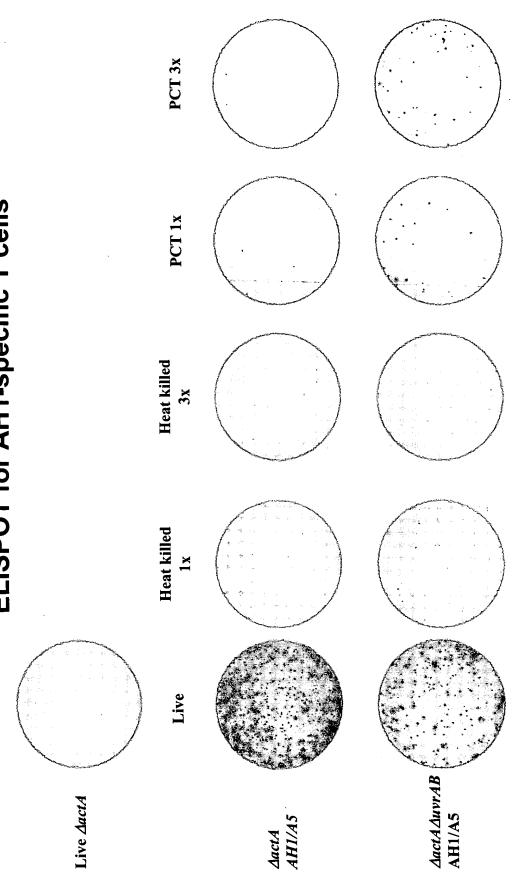


Figure 18B

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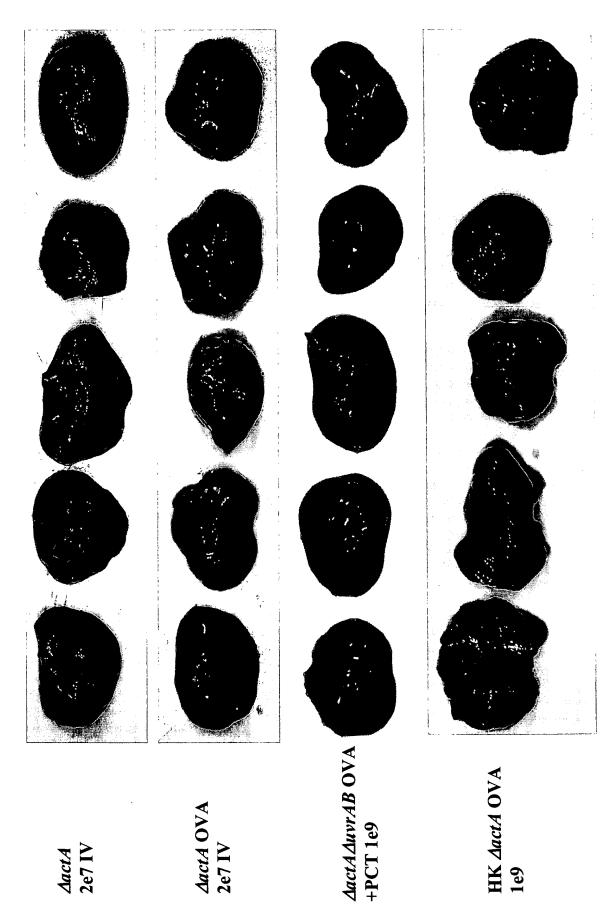
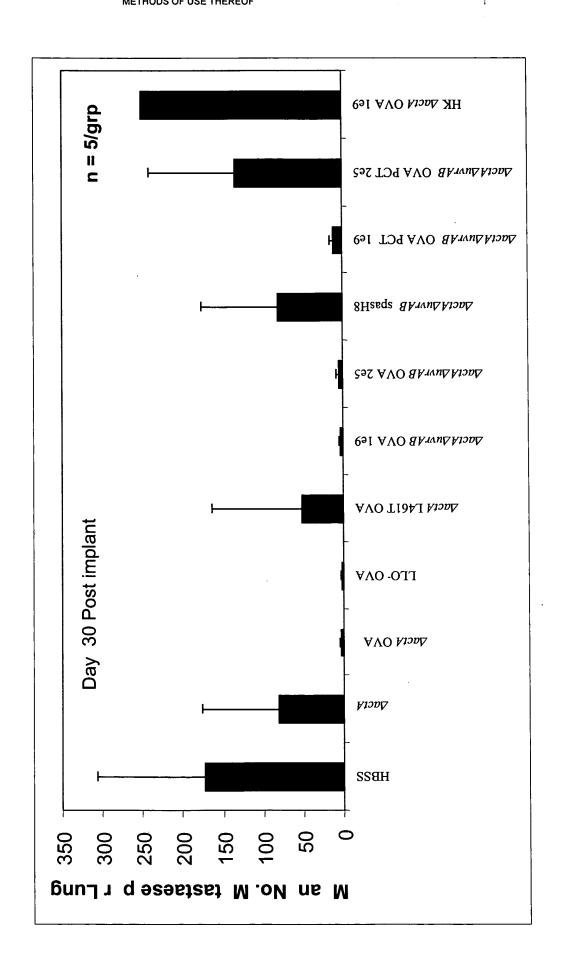


Figure 19A



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Title: MODIFIED FREE-LIVING MICROBES, VACCINE COMPOSITIONS AND METHODS OF USE THEREOF

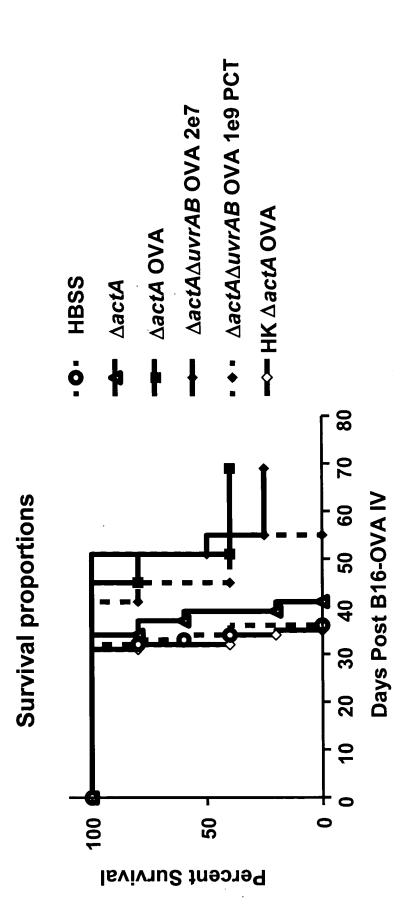


Figure 19C

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Title: MODIFIED FREE-LIVING MICROBES, VACCINE COMPOSITIONS AND METHODS OF USE THEREOF

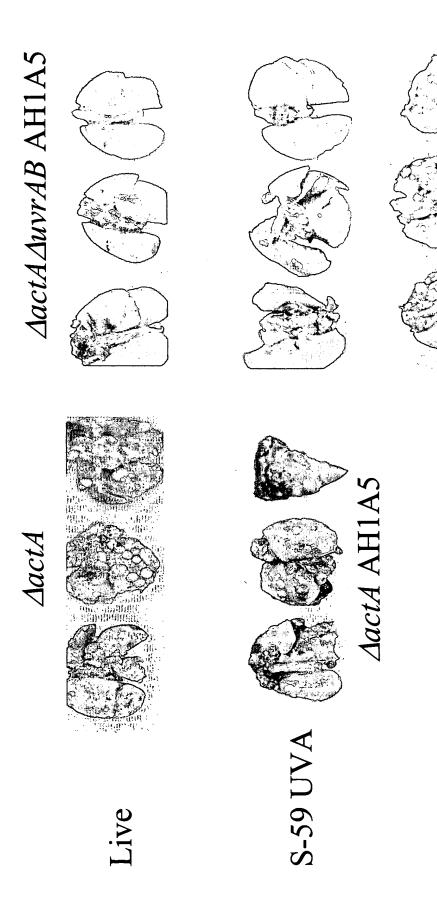


Figure 20A

Heat killed

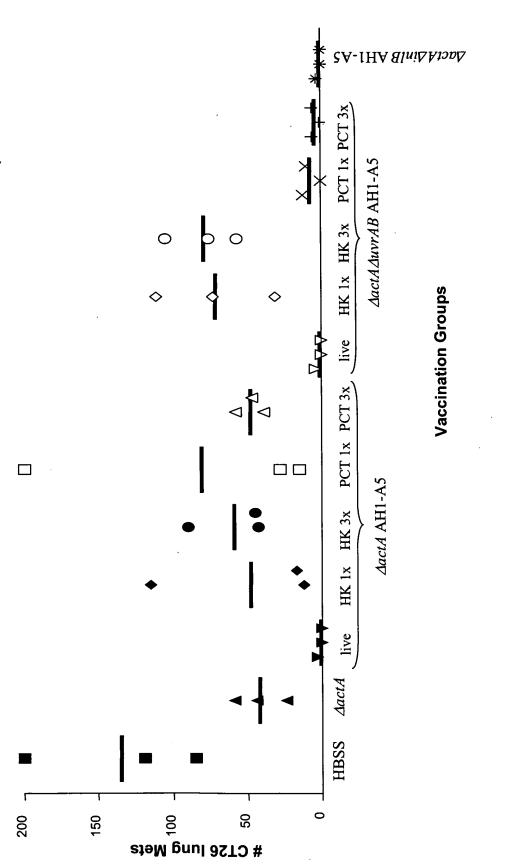


Figure 20B

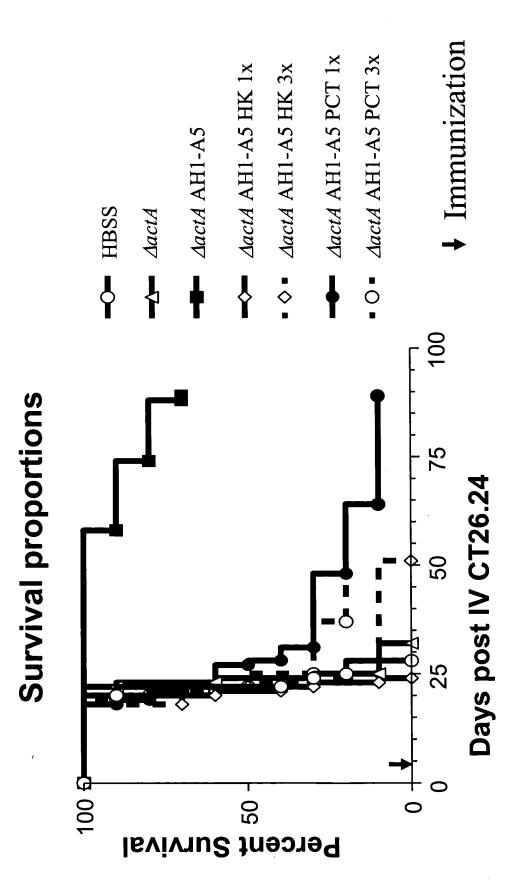


Figure 20C

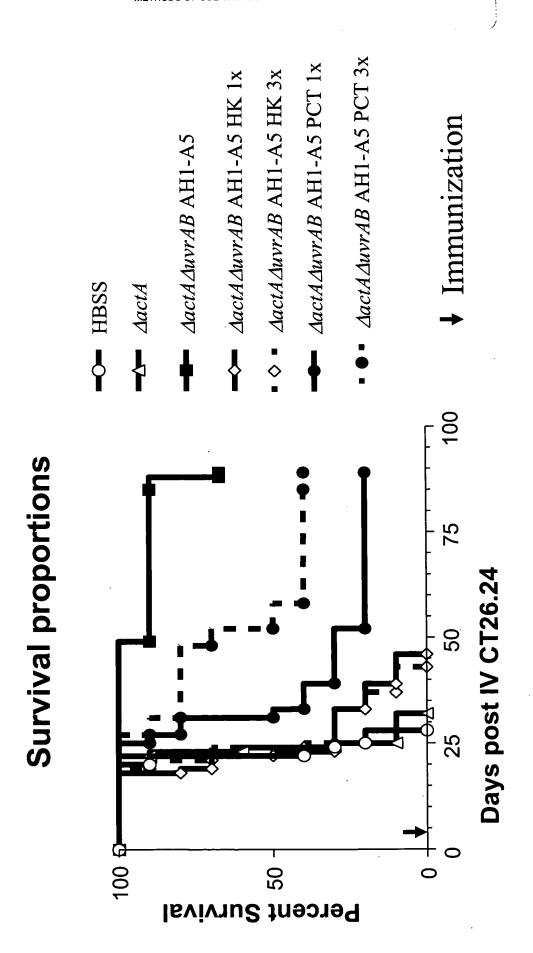
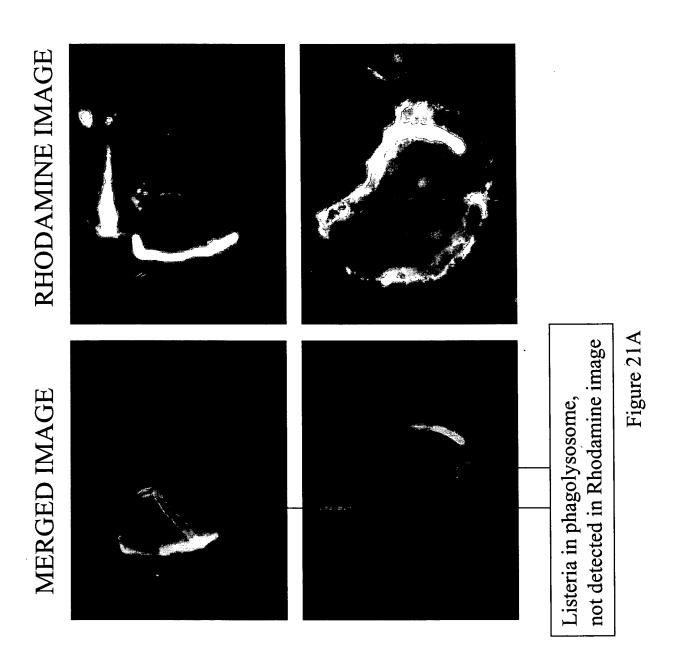


Figure 20D



80

9

40

% cytoplasmic bacteria

20



heat killed

S-59 UVA

heat killed

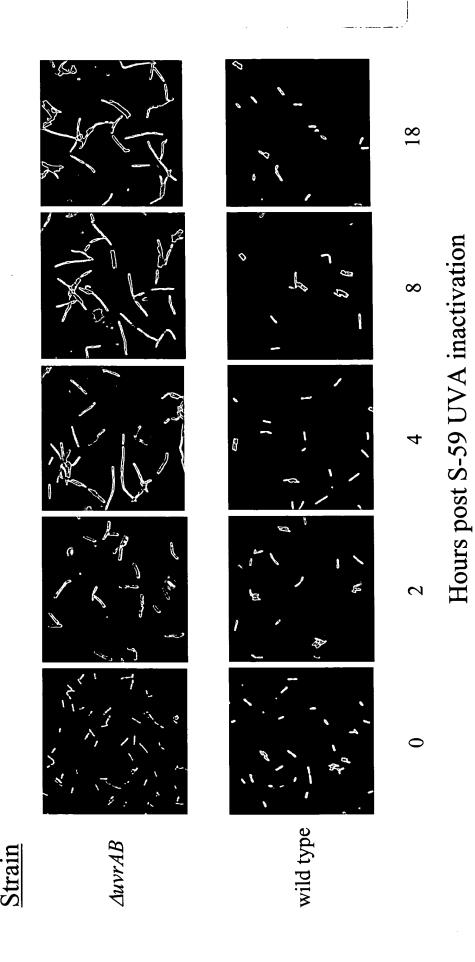


Figure 22

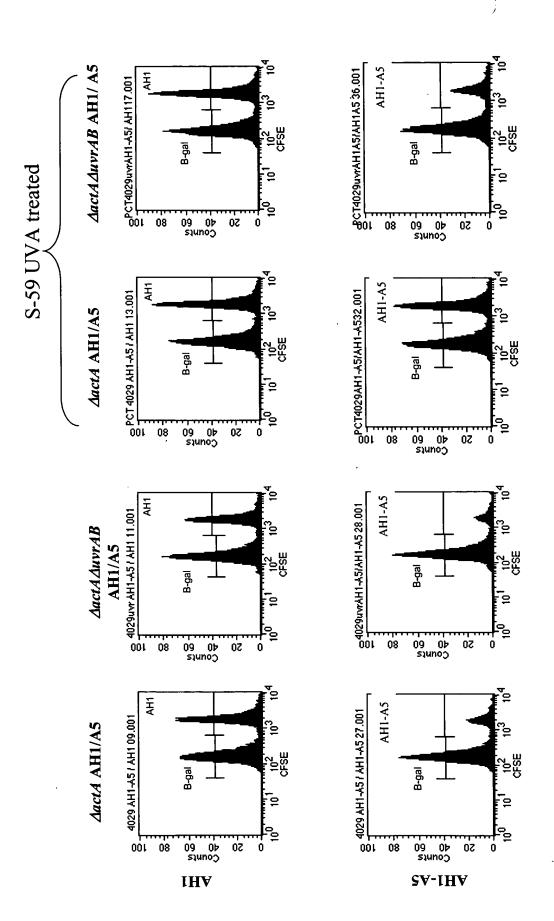


Figure 23A

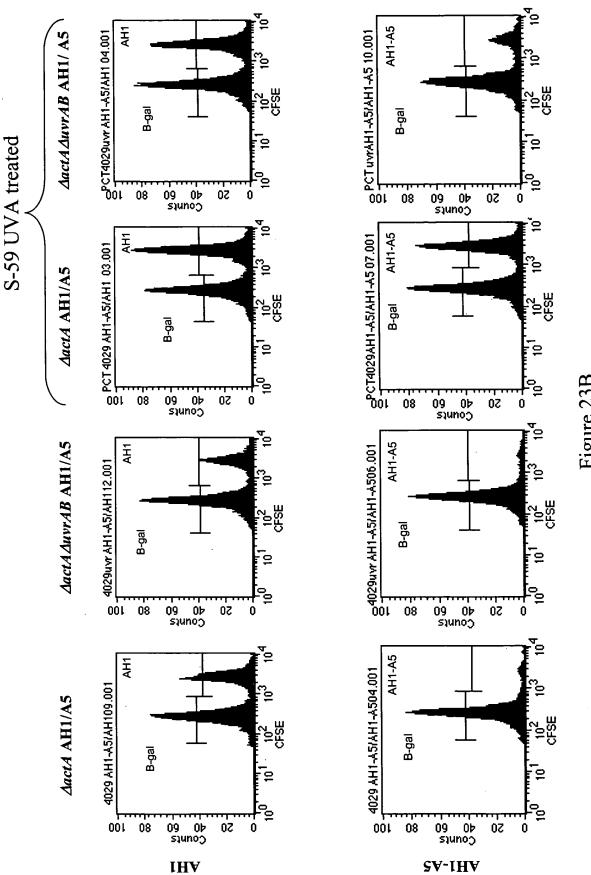


Figure 23B

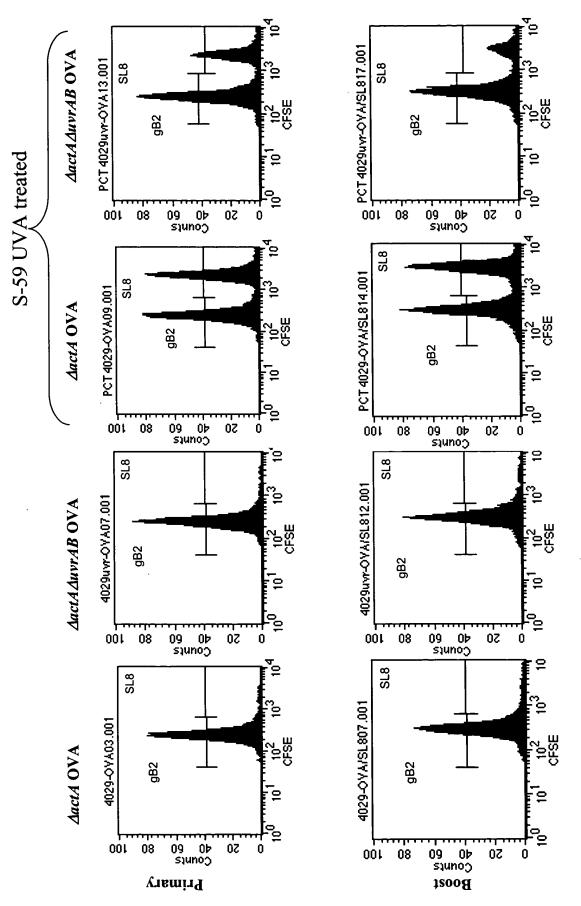


Figure 23C

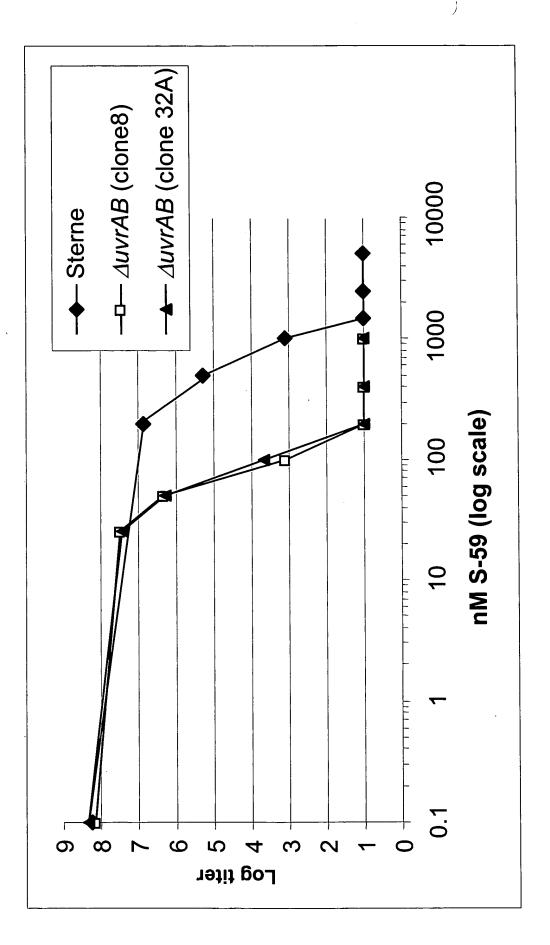


Figure 24

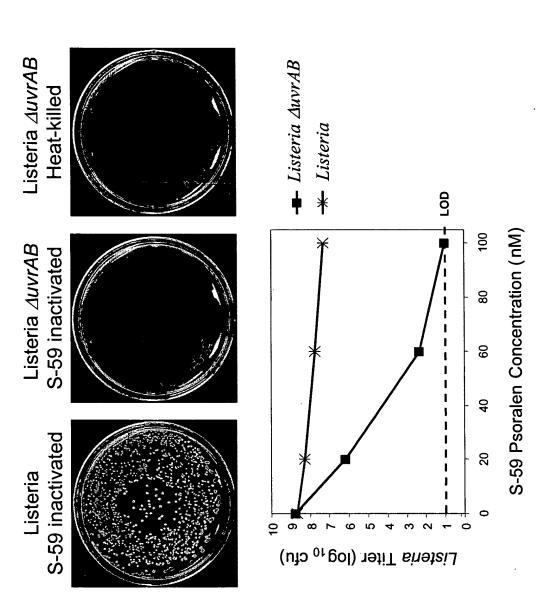
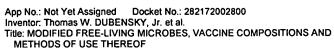


Figure 25



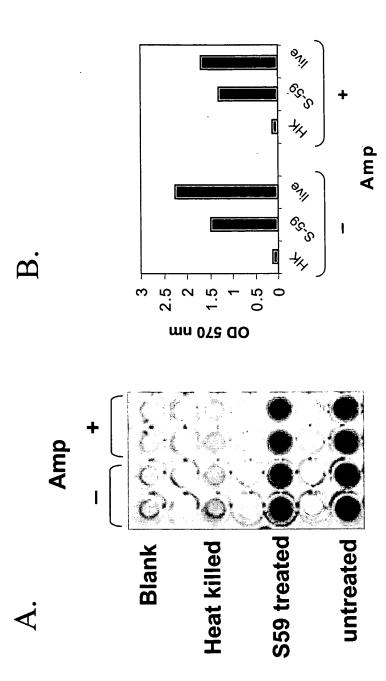
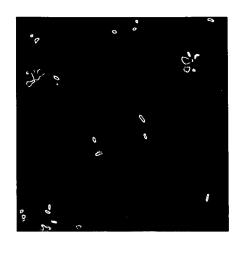


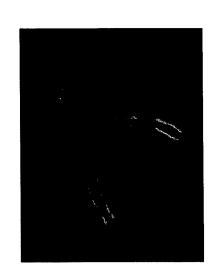
Figure 26

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Title: MODIFIED FREE-LIVING MICROBES, VACCINE COMPOSITIONS AND METHODS OF USE THEREOF



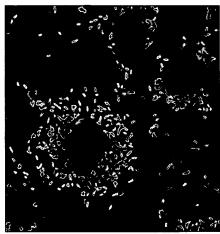


B. Wild type

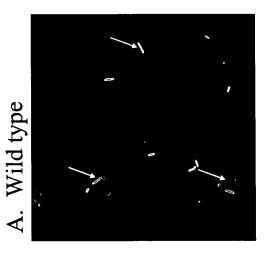


E. Listeria AuvrAB S-59 UVA inactivated



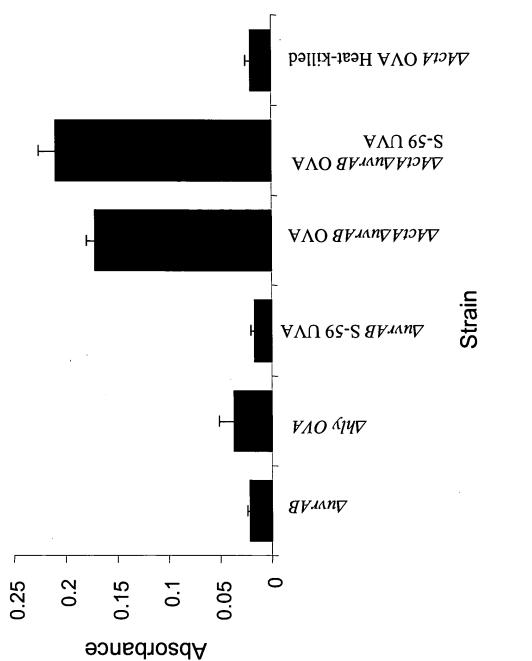






D. Listeria AuvrAB S-59 UVA inactivated





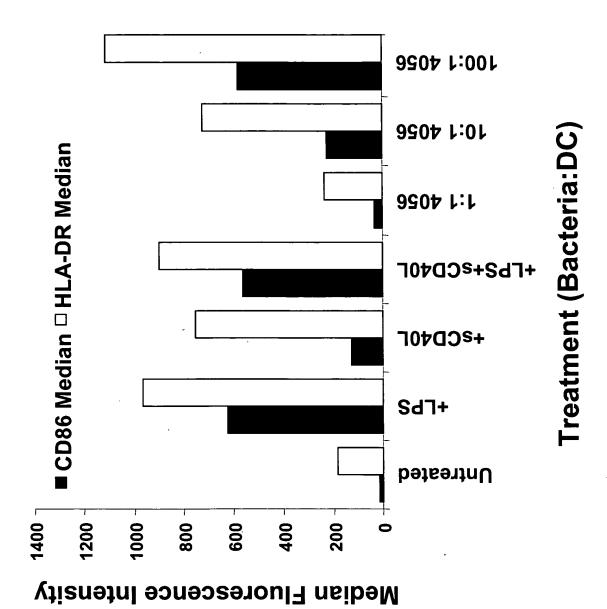
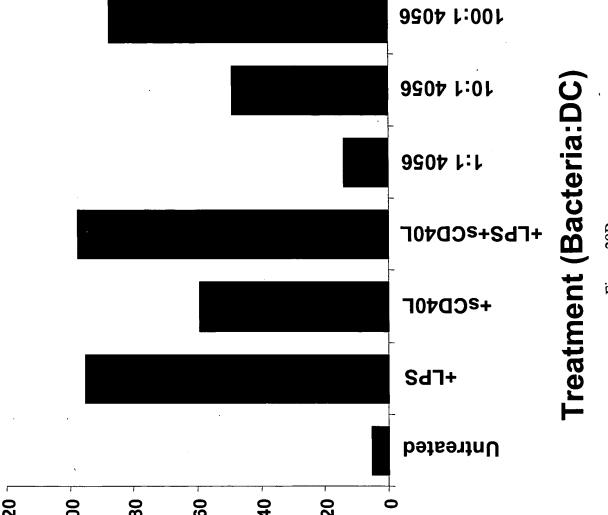


Figure 29A

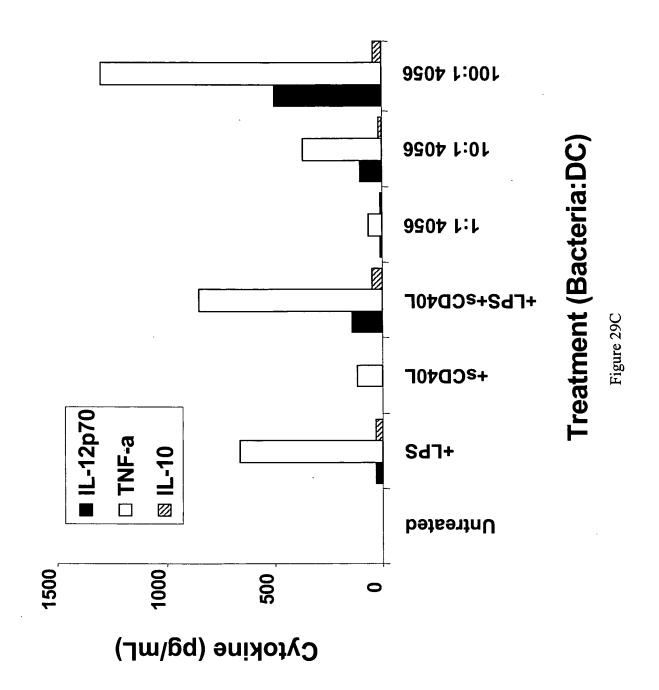
% CD83+ HFY-DK<sub>P!</sub>



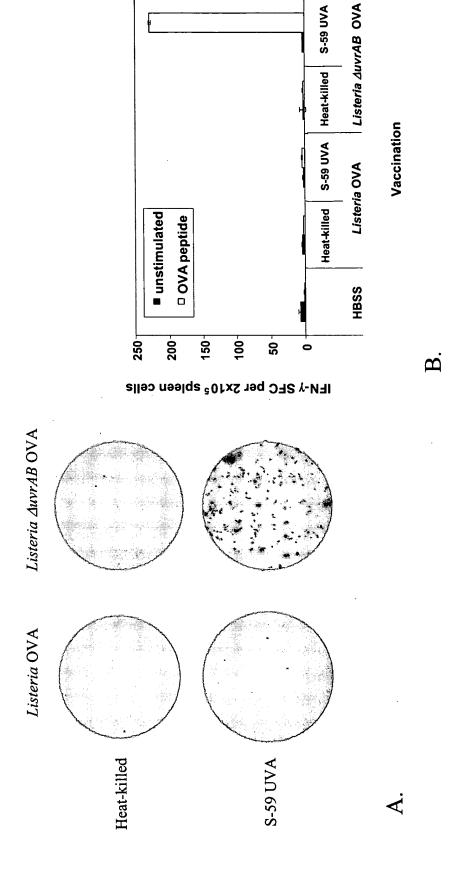


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## LLO<sub>(ss-PEST)</sub>-OVA/PR3 class I Primary Amino Acid Sequence

Σ C Z > Z ш ⋖ Z SAFN Z ш Ø Σ I 4 マエ Δ Q ⋖ ∑ J 7 Q L ш ⊢ 0 **∽** ≻ ď Δ 0 S ۵ ۵ ⋖ S I > Σ ۵ Σ Z, \_ \_ \_ Σ шш S  $P \circ P = \mathbf{m} = \mathbf{N} \circ P$ 

I I N F E K L: OVA H-2 Kb epitope

S

N V T V: PR3 HLA A-2 restricted class I epitope (a.k.a. PR1) \_ ш 0 \_ \

Listeria secA1 signal peptide and PEST sequence is underlined

`;

Figure 31

App No.: Not Yet Assigned Docket No.: 282172002800 Inventor: Thomas W. DUBENSKY, Jr. et al.
Title: MODIFIED FREE-LIVING MICROBES, VACCINE COMPOSITIONS AND METHODS OF USE THEREOF

